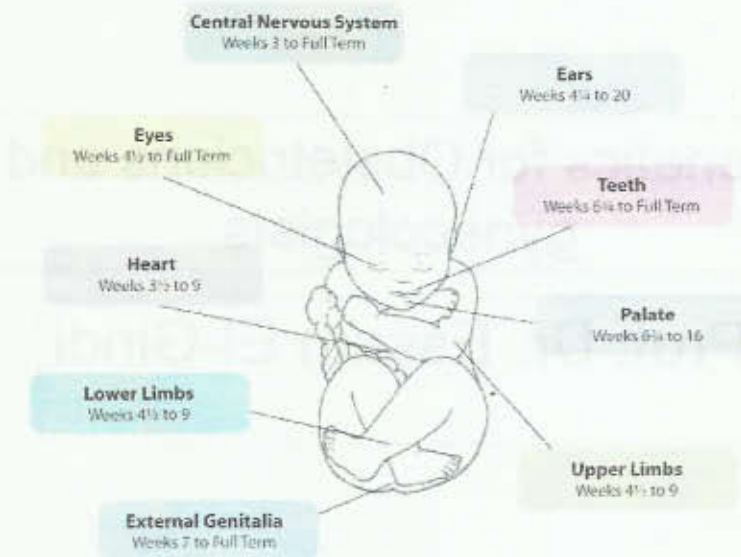


Prof. Dr. Essam El-Gindi

[illegible]

Periods of Fetal Development

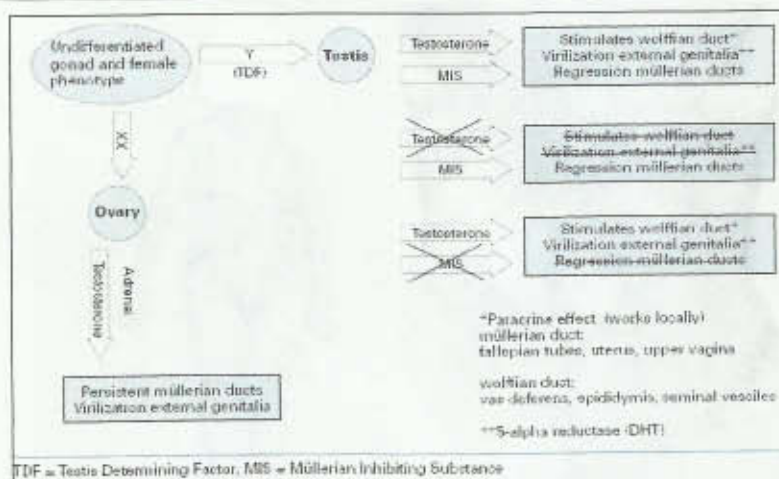


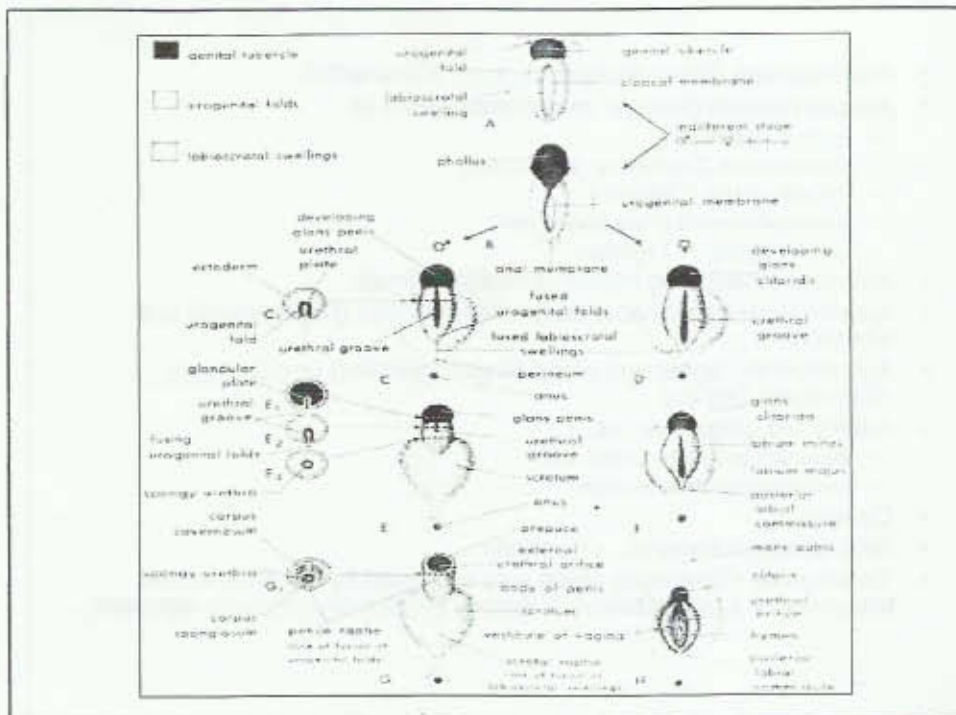
Definition of teratogenic drugs

- ACE (angiotensin converting enzyme) inhibitors such as:
 - [benazepril](#) (Lotensin),
 - [captopril](#) (Capoten),
 - [enalapril](#) (Vasotec),
 - [fosinopril sodium](#) (Monopril),
 - [lisinopril](#) (Zestril, Prinivil),
 - [lisinopril](#) + [hydrochlorothiazide](#) (Zestoretic, Prinzide),
 - [quinapril](#) (Accupril) and
 - [ramipril](#) (Altace).
- [Acne](#) medication [isotretinoin](#) (Accutane, Retin-A).
- Alcohol ingested chronically or in binges.
- Androgens (male hormones).
- Antibiotics [tetracycline](#) (Achromycin), and [doxycycline](#) (Vibramycin), and streptomycin.

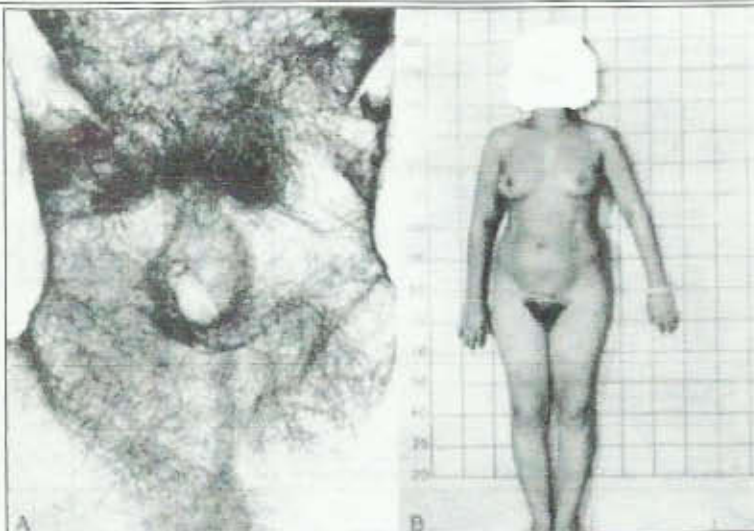
- Anticoagulant (blood-thinner) **warfarin** (Coumadin).
- Anticonvulsants (seizure medications) such as:
 - **phenytoin** (Dilatin),
 - valproic acid (Depakene, Valproate),
 - trimethadione (Tridione),
 - paramethadione (Paradione), and
 - **carbamazepine** (Tegretol).
- Anti-depressant drug **lithium** (Eskalith, Lithob).
- Antimetabolite/anticancer drugs **methotrexate** (Rheumatrex) and aminopterin.
- Antirheumatic agent and metal-binder (chelator) **penicillamine** (Ciprimene, Depen).
- Antithyroid drugs such as:
 - thiouracil/propylthiouracil and
 - carbimazole/methimazole.
- Cocaine.
- DES (diethylstilbestrol), a hormone.
- Thalidomide (Thalomid) which was approved by the FDA for the treatment of a complication of leprosy (**erythema nodosum** leprosum)

Sexual differentiation





Partial Androgen insensitivity

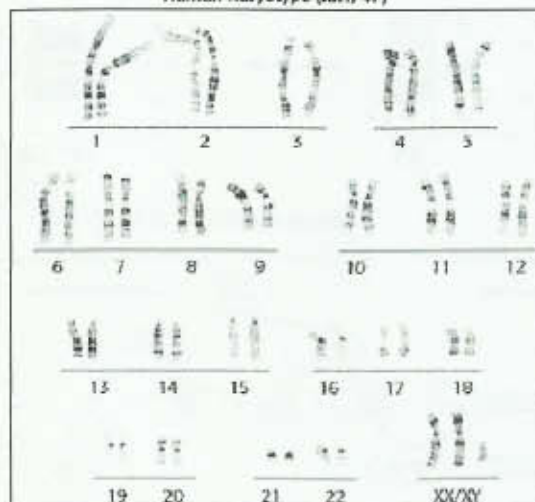


Pseudo-vaginal perineoscrotal hypospadias 5 α reductase deficiency



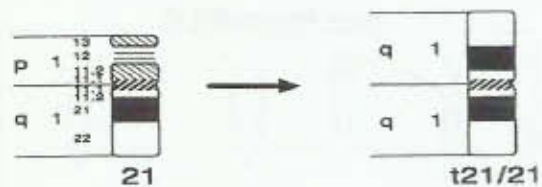
Chromosomal anomalies

Human Karyotype (XXY, 47)

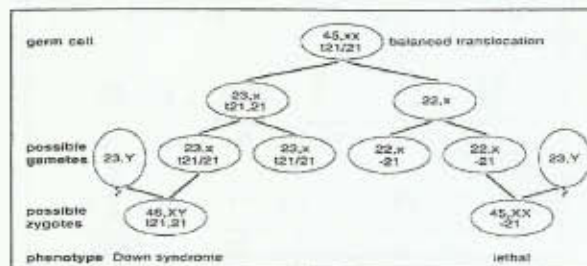


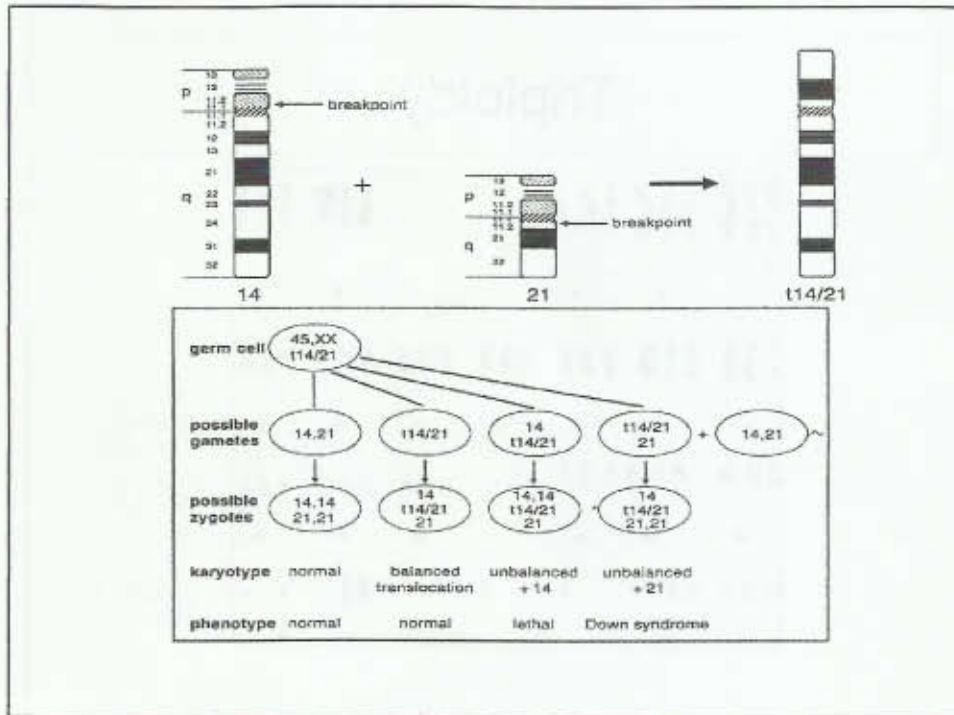


100% transmission

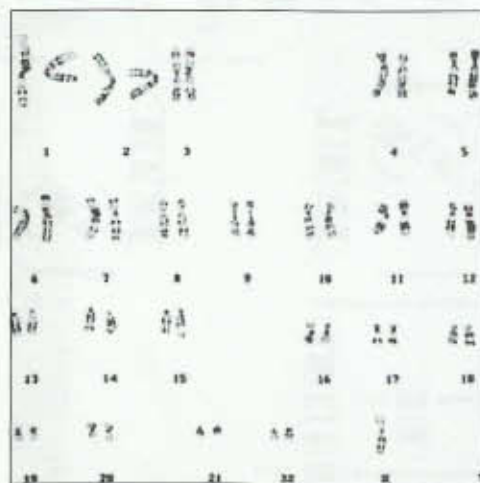


Translocation 21/21

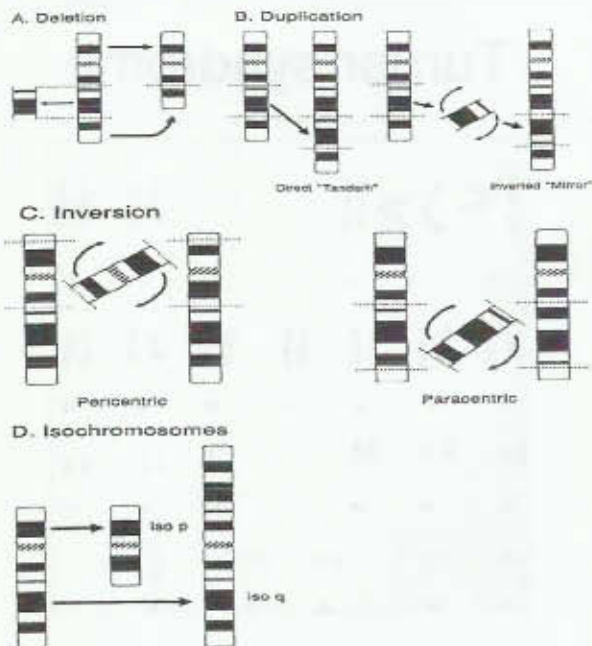




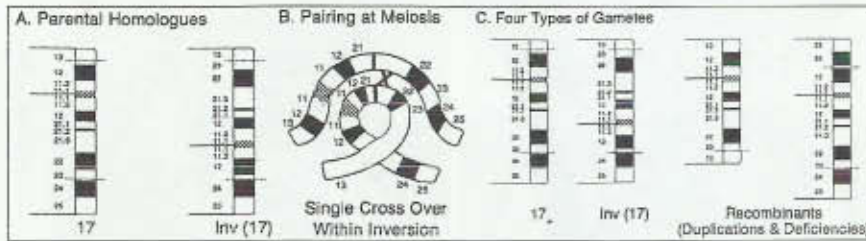
Turner syndrome



Triploidy



Inversion at meiosis



Repeated pregnancy loss

Chromosomal complements in spontaneous abortions recognized clinically in the first trimester

Normal 46,XX or 46,XY	54.1
Triploidy	7.7
69,XXX	2.7
69,XXY	4.0
Tetraploidy	2.6
Monosomy X	8.6
Structural abnormalities	1.5
47,XXX	0.05
47,XXY	0.15
Autosomal trisomy for chromosomes	22.3
Mosaic trisomy	1.3
Other abnormalities or not specified	0.9
	100.0

